

What is claimed is:

1. A method of creating an interface layer over the surface of a semiconductor device, comprising the steps of:

providing a semiconductor device, said semiconductor device having a first and a second surface with points of electrical contact to said semiconductor device having been provided in said second surface of said semiconductor device, said semiconductor device having been provided with a layer of passivation over said second surface of said semiconductor device, openings having been created through said layer of passivation exposing said points of electrical contact to said semiconductor device;

providing a semiconductor device mounting support having a first and a second surface, contact pads having been provided in said first or said second surface of said semiconductor device mounting support;

positioning said semiconductor device over the second surface of said semiconductor device mounting support, said first surface of said semiconductor device facing said second surface of said semiconductor device mounting support;

providing conductive interconnections between said points of electrical contact provided in said second surface of said semiconductor device and contact pads provided over the second surface of said semiconductor device mounting support;

providing an underfill for said semiconductor device;

depositing an interface layer over the surface of said layer of passivation; and

patterning and etching said interface layer, creating at least one opening through said interface layer.

2. The method of claim 1, said interface layer comprising polysilicon.

3. The method of claim 1, further comprising depositing a layer of mold compound over the surface of said interface layer, filling said at least one opening created through said interface layer.

4. A method of creating protective layers for the packaging of a semiconductor device, comprising the steps of:

providing a semiconductor device, said semiconductor device having a first and a second surface with points of electrical contact to said semiconductor device having been provided in said second surface of said semiconductor device, said semiconductor device having been provided with a layer of passivation over said second surface of said semiconductor device, openings having been created through said layer of passivation exposing said points of electrical contact to said semiconductor device;

providing a semiconductor device mounting support having a first and a second surface, contact pads having been provided in said first or said second surface of said semiconductor device mounting support;

positioning said semiconductor device over the second surface of said semiconductor device mounting support, said first surface of said semiconductor device facing said second surface of said semiconductor device mounting support;

providing conductive interconnections between said points of electrical contact provided in said second surface of said semiconductor device and contact pads provided over the second surface of said semiconductor device mounting support;

providing an underfill for said semiconductor device;

depositing an interface layer over the surface of said layer of passivation;

patterning and etching said interface layer, creating at least one opening through said interface layer; and

depositing a layer of mold compound over the surface of said interface layer, filling said at least one opening created through said interface layer.

5. The method of claim 4, said interface layer comprising polysilicon.

6. An interface layer created over the surface of a semiconductor device, comprising:

a semiconductor device;

a semiconductor device mounting support;

said semiconductor device positioned over said semiconductor device mounting support;

an underfill provided for said semiconductor device;

an interface layer deposited over the surface of said layer of passivation; and

said interface layer having been patterned and etched, creating at least one opening through said interface layer.

7. The interface layer of claim 6, said interface layer comprising polysilicon.

8. The interface layer of claim 6, further comprising a layer of mold compound deposited over the surface of said interface layer, filling said at least one opening created through said interface layer.

9. Protective layers provided for the packaging of a semiconductor device, comprising:

a semiconductor device, said semiconductor device having a first and a second surface with points of electrical contact to

said semiconductor device having been provided in said second surface of said semiconductor device, said semiconductor device having been provided with a layer of passivation over said second surface of said semiconductor device, openings having been created through said layer of passivation exposing said points of electrical contact to said semiconductor device;

a semiconductor device mounting support having a first and a second surface, contact pads having been provided in said first or said second surface of said semiconductor device mounting support;

said semiconductor device positioned over the second surface of said semiconductor device mounting support, said first surface of said semiconductor device facing said second surface of said semiconductor device mounting support;

conductive interconnections provided between said points of electrical contact provided in said second surface of said semiconductor device and contact pads provided over the second surface of said semiconductor device mounting support;

an underfill provided for said semiconductor device;

an interface layer deposited over the surface of said layer of passivation;

said interface layer having been patterned and etched, at least one opening having been created through said interface layer; and

a layer of mold compound deposited over the surface of said interface layer, filling said at least one opening created through said interface layer.

10. The protective layers of claim 9, said interface layer comprising polysilicon.

11. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:

providing a semiconductor surface;

depositing a stress relieve interface layer over said semiconductor surface; and

creating at least one opening through said stress relieve interface layer.

12. The method of claim 11, said semiconductor surface being a surface of a semiconductor device.

13. The method of claim 11, said stress relieve interface layer providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.

14. The method of claim 11, said stress relieve interface layer comprising polysilicon.

15. The method of claim 11, further comprising depositing a layer of mold compound over the surface of said stress relieve interface layer, filling said at least one opening created through said stress relieve interface layer.

16. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:

providing a semiconductor surface;

depositing a stress relieve interface layer over said semiconductor surface;

creating at least one opening through said stress relieve interface layer; and

depositing a layer of mold compound over the surface of said stress relieve interface layer, filling said at least one opening created through said stress relieve interface layer.

17. The method of claim 16, said semiconductor surface being a surface of a semiconductor device.

18. The method of claim 16, said stress relieve interface layer providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.

19. The method of claim 16, said stress relieve interface layer comprising polysilicon.

20. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:

providing a semiconductor surface;

depositing a layer of polysilicon over said semiconductor surface; and

creating at least one opening through layer of polysilicon.

21. The method of claim 20, said semiconductor surface being a surface of a semiconductor device.

22. The method of claim 20, said layer of polysilicon providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.

23. The method of claim 20, further comprising depositing a layer of mold compound over the surface of said layer of polysilicon, filling said at least one opening created through said layer of polysilicon.

24. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:



providing a semiconductor surface;

depositing a layer of polysilicon over the surface of said semiconductor surface;

creating at least one opening through said layer of polysilicon; and

depositing a layer of mold compound over the surface of said layer of polysilicon, filling said at least one opening created through said layer of polysilicon.

25. The method of claim 24, said semiconductor surface being the surface of a semiconductor device.

26. The method of claim 24, said layer of polysilicon providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.

27. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:

providing a semiconductor device;

depositing a layer of polysilicon over a surface of said semiconductor device; and

creating at least one opening through layer of polysilicon.

28. The method of claim 27, said layer of polysilicon providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.

29. The method of claim 27, further comprising depositing a layer of mold compound over the surface of said layer of polysilicon, filling said at least one opening created through layer of polysilicon.

30. A method for applying a stress relieve interface layer over a semiconductor surface, comprising the steps of:

providing a semiconductor device;

depositing a layer of polysilicon over a surface of said semiconductor device;

creating at least one opening through said layer of polysilicon; and

depositing a layer of mold compound over the surface of said layer of polysilicon, filling said at least one opening created through said layer of polysilicon.

31. The method of claim 30, said layer of polysilicon providing relieve to stress introduced by mismatched Coefficients of Thermal Expansion (CTE) of thermally interacting layers.